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ORIGINAL COMMUNICATIONS.

NOTICE TO CONTRIBUTORS.—Write on one side of the paper only. When you want to begin a paragraph at a given word, place before it in your MS. the sign ¶. Words to be printed in *italics* should be underscored once, in SMALL CAPITALS twice, in LARGE CAPITALS three times. Address all communications, subscriptions, etc., to H. T. WEBSTER, M. D., Editor CALIFORNIA MEDICAL JOURNAL, OAKLAND, CALIFORNIA.

Physicians in active practice are always in need of some thing to supply a new demand in the shape of remedies and appliances, and will, perhaps, find, by reading our advertising pages, a guide to just what they need. Some of these advertisements are being changed every month. Keep your eye on them.

PLANTAGO MAJOR.

BY JOHN FEARN, M. D., OAKLAND, CAL.

HISTORY.—Plantain is one of the old-fashioned remedies; it belongs to the natural order *Plantaginaceæ* and has been used in medicine chiefly domestic for over 800 years, perhaps much more than that. It is common in both Europe and America; it grows in rich, moist places, in fields and by the way-sides. One of the old common names of this plant is "way bread," also "way broad leaf."

MEDICAL PROPERTIES AND USES.—From personal experience, I would credit it with tonic, astringent, emollient and soothing properties. It was long considered a vulnerary or wound herb, and though in the present day this idea is a good deal scouted, yet any one may soon convince himself that it has marked healing properties. The soothing properties of this drug when applied to abraded or irritated surfaces is not due in my opinion to any narcotic property of the plant, but I believe they are due to the emollient and local sedative properties of the plant. Let any one who wishes to investigate in this direction try the hot infusion of this plant in cases of severe rhus poisoning, in erysipelas, in inflamed hæmorrhoidal tumors, in mammitis, burns, scalds, etc.;

or you may take 8 ℥ of the fresh plant, roots and all, simmer in 1 lb of cosmoline till the leaves are crisp, then strain. You will have an "unguent" which for application in many of the above cases will give very great relief to the patient and satisfaction to the physician.

It has with some authorities quite a reputation as an alterative, being used for this purpose in syphilitic, scrofulous, and mercurial diseases; this I cannot by experience affirm. Neither can I affirm or deny its benefit as a remedy for arresting intermittents. But I do know that in menorrhagia, leucorrhea, hematuria, hematemesis, diarrhea, dysentery, hæmorrhoids, in irritation and inflammation of the urinary tract, it is a good remedy. What, you ask, does it do? That question is pertinent, and in answer thereto I say it soothes, it sedates, it heals, it astringes. By removing irritation it re-establishes restrained normal secretions, and then by giving tone and thus power to muscular fiber, it astringes and restrains abnormal secretions.

The old way was to give the expressed juice of the fresh plant. This requires more skill and pharmaceutical apparatus than is always at hand. An infusion where you have the fresh plant is a very eligible way of using it. Take 3 ℥ of the fresh plant, roots, seeds and all, bruise it and pour upon it 18 ℥ of hot water (not boiling), let stand for one hour, then strain; it can be sweetened. Dose ℥ss every $\frac{1}{2}$ hour to 3 hours according to symptoms. The "specific plantago" is a very eligible way of administering this drug; it may be given in doses from a fraction of a gtt. to 5 gtt.

It is amusing to hear some well-meaning but not well-informed physicians claiming a priority of use for this drug by homeopaths. Why, say they, it is a homeopathic drug. Why, plantago was used as a medicinal drug centuries before Hahnemann saw the light or tested a drug. Its record in this line covers a period not covered by years but by centuries. But so far as I am informed there is some credit due them for bringing it into more general use among physicians for odontalgia. Not that they were the first to discover its use in this direction. Hale, in his new remedies, quoting from the "Herbal of Dodoens," which was published in the year 1558, says: "The juice or de-

coction of the leaves or roots do cure and heal the naughtie ulcers of the mouth, the toothache and bleeding of the gums." Again the same author, quoting from John Parkinson in his "Theatre of Plants," A. D. 1640, says: "The root taken fresh out of the ground, washed and gently scraped with a knife, then put into the ear, cures the toothache like a charm." We also learn that in Switzerland the people use it in the same way, putting it into the ear. The way I would recommend it to be used in such cases, would be where there is a cavity, first clean out the cavity, soak cotton batting in the strong tincture and pack in the cavity, then take internally from $\frac{1}{2}$ gtt. to 2 gtts. in a little water. But the question may be asked, Will it cure all cases of toothache? in a word, Is it a specific for toothache? We say, No; most emphatically, *No*.

The specific indications for the use of this drug in odontalgia are sensitiveness of the teeth to cold air or cold liquids; there is aching in the jaws, extending to the temples. In closing the mouth the affected teeth seem to come in contact before the others touch, as though these teeth were elongated, arising, as I believe, from vascular congestion of the lining membrane. Such a case presenting such conditions will be most generally relieved by the plantago major. It is a good remedy in otalgia, applying in the ear diluted with warm water; let it be as warm as can be borne, giving of the tincture internally at same time.

Dr. Hale speaks of seeing the happiest results from applying the warm wilted plantain leaves in cases of mastitis; the leaves when applied should be covered with oil silk. This is good, but I feel sure that practitioners will get better results from applying the plantago unguent formula which I have given above. It is a good remedy internally in the "nocturnal enuresis" of children, and I feel assured it will help not only the cases for which Hale recommends it, viz., in cases of laxity of the sphincter vesicæ, but also in cases where we have irritation with hyperæmia of the parts. In conclusion, this drug has a very wide field of application; it is well worthy of a thorough re-study, and I am sure physicians will be well repaid for their study. It is not a cure-all, but I am sure that, therapeutically considered,

it is a genuine *multum in parvo*. As a last consideration, it grows so common that any one can procure it by taking the trouble to seek it. Shall be glad to hear, through the pages of the JOURNAL, the experience of any of our physicians on the history and therapeutical uses of this drug.

TOXICOLOGY—THIRD PAPER.

BY A. B. MARCONNAY, PH. D., STUD. CAL. MED. COLLEGE.

WE will, therefore, partly following Blyth, and partly the latest continental authors, such as classify poisonous matters into:—

- A. Acids, alkalies, and neutral salts.
- B. Poisonous substances capable of being separated by distillation from the neutral or acid liquids.
- C. Alkaloids and vegetable poisons obtained by alcoholic solvents.
- D. Oxalic acids.
- E. Animal poisons.
- F. Inorganic poisons.

The divisions into which we have to separate these groups will be considered under the head of each, as the purpose of these lines is not to give a hand-book of toxicology, but rather a compendium for the practitioner, as well as the student, which will enable him to get the salient points without being obliged to go too deep into details. For this reason there will be no tables contained in these lines showing the statistics of criminal poisoning, and the very interesting chapter on life tests will be omitted in the same way, although it may be noticed in its right place and when it is needed to show the action of certain poisons on the living animal.

Yet before we start into the investigation of the different classes, it will be necessary to mention the general method of procedure in searching for poisons. This is generally beyond the scope of the chemist, unless he has made a specialty of it, and belongs intrinsically to the medical man. For this reason we omit the qualitative analysis of inorganic matter—any good text-book

on chemistry will give this to the student—and confine ourselves to the examination of organic matter, both solid and fluid.

The articles which generally come into the expert's hand for analytical treatment belong either to parts of the human system, like the brain, heart, liver, stomach, pancreas, lungs, kidneys, intestines, or vomited matter, food and drugs.

It cannot be too strongly impressed on that point to be careful in the handling and conserving of any of these articles. If you want to send anything for chemical inspection, do not fail to put it into a glass jar and seal its mouth. The expert will naturally take great care that he receives his material in as good conserved a state as possible, especially when it has a forensic value. He will note accurately the manner in which each sample has been packed, whether it has been so protected that the seals could not have been tampered with, and then carefully proceed to notice each sample's appearance, color, smell and reaction, not forgetting to take its weight if solid, or the volume if liquid.

Let us try to give the following *modus operandi* on an example, and for this purpose select one which comes very often under inspection, the human stomach and its contents. We remove the latter thoroughly and carefully into a tall, conical glass; cut the stomach open, spread it on a plate or sheet of glass, and examine it carefully by the use of a lens. Any suspicious-looking substance will have to be picked out and laid aside for a closer examination. We then carefully wash the mucous membranes, cleansing them thoroughly by the aid of a wash bottle. Sometimes it is necessary to destroy the stomach, and it is always good policy in such cases to have it photographed, especially when the proceedings of the inquest are to be ventilated in court. The washings of the stomach will have to be carefully looked into, for they give a knowledge of the nature of the food eaten by the deceased, irrespective of a possible discovery of poison. We put the contents and the washings into a large glass beaker, for further investigation. If death has really taken place from disease and not from poison, or if it has been caused by poison and yet no definite hint of the poison can be got either by the symptoms or by the attendant circumstances, we have the difficult task of en-

deavoring to find a process of analysis which will be likely to discover any poison in the animal, vegetable, or mineral kingdom. For this purpose we will continue the research on our given case, the human stomach and its contents.

The lens not having revealed anything, we take small particles from different parts of the stomach and submit them to a thorough microscopical test. These parts then are carefully preserved, as they may yet have to be used for the purpose of cultivation of bacilli. For in cases where there are reasonable grounds for supposing that a person is poisoned by a zymotic contagion, for example, in cases of illness after eating the meat of animals (we remember several cases of trichinosis in Germany) it may be necessary to "cultivate" extracts of the meat eaten, or the blood of the person who has suffered, and make experiments on animals with the product of cultivation. The apparatus for cultivation may be as simple as possible, as its chief condition is some arrangement which will give a uniform temperature. For this purpose a water bath filled with a Page's gas-regulator is generally used in Europe.*

We now put the stomach aside for awhile and examine its fluid contents, as well as the washings we received. For the purpose of acting systematically, it is the best to divide the contents of the glass beaker, into which we had put all liquid and semi-solid matter, into four parts.

To be tested { (1) for poisonous metals.
(2) for strong acids and alkalies.
(3) for alkaloids.
(4) for any special examination that suggests itself.

No. 1. Under the head of test for poisonous metals, we have to consider all those reactions which will give us a universally acknowledged proof of presence of such metals in the contents of the stomach. Poisoning of this kind happens often enough by carelessness in households, for example, verdigris poisoning from uncleansed copper kettles, and the commonly occurring metals are

*In the next paper the writer hopes to be able to relate a series of experiments of this kind which are now in a state of incubation, or rather in a California incubator.

copper, zinc, tin, arsenic, lead, and silver. We divide our sample, which, as we remember, consists of both fluid and semi-solid material, by filtering the fluid. The residue of the filter we put aside and label it (for example, Case No. XII, 1, BB, meaning that it represents the second half of the first test of our given case).*

1a. The fluid we test in a test-tube by adding some hydrochlorid acid, which will form chlorides. For example: $\text{Ag} + \text{HCl} = \text{AgCl} + \text{H}$, which falls as a white curdy precipitate quite insoluble in water and nitric acid. To be sure that it is Ag we treat a part of it for its reaction towards H_2N , in a solution of which it dissolves with great ease. In a similar way we test the fluid in the well-known method, for any other metal it may possibly contain. A good plan is to put a bright copper wire or sheet copper in the clear liquid. If there is any Hg, As, St present the sheet will be blackened in a short time. We then heat the testing tube gently and find Hg condensed in fine globules at the upper part of the test-tube, As forming a fine spray of minute crystals which we can let undergo Marsh's test for arsenic; St forming a fine white powder in the bottom of the test-tube. For detection of PO and Cu we add sulphuric hydrogen, which will precipitate a black powder; filter, wash out, and dissolve precipitate in sulphuric acid; PO will give a white precipitate; Cu will show the general Cu colors.

1b. The residue of the filter is treated in a similar way as the liquid, only that it will have to undergo the regular qualitative analytical test for every possibly contained element.

* We again have to remark that all investigation of this kind cannot be treated systematically enough for the purpose both of making one's own task easier, and of being able to prove it in open court to the inquisitive mind of the prosecuting attorney.

SOME FACTS ABOUT EPILEPSY.

BY LYMAN WATKINS, M. D., BLANCHESTER, OHIO.

EPILEPSY, although liable to occur at any age, usually commences between the ages of ten and twenty years, rarely beginning before the end of the first year or after the fifteenth. The prevalence of epilepsy is so great that it is met with in the practice of all physicians in every country. It is said to prevail at the rate of six per thousand inhabitants. These figures would give us a total of three hundred thousand epileptics or more in the United States, an almost incredible number. There is no difference in the relative frequency with which the sexes are attacked. Hereditary tendency often exists. Epileptic females are not more prone to puerperal convulsions, before, during, or after labor, than other women not subject to epilepsy. The sinful weakness of masturbation develops many morbid nervous phenomena, but it has no special tendency to bring on epilepsy. There are many exciting causes of epilepsy, but it may occur without any premonitory symptoms or known causes in those previously healthy. Notwithstanding the general tendency of epilepsy is toward imbecility, mental deterioration is by no means inevitable. An individual may be afflicted with this disease and still maintain his mental integrity; be capable of conducting his business, and of engaging in vast enterprises requiring much thought and ability. In one-third of those suffering from epilepsy, there is no mental deterioration by statistical showing, frequency and violence of attacks having no particular bearing on this point. The same may be said in regard to the physical condition, which may be good, enabling the epileptic to endure labor, exposure, or fatigue equal to or beyond those who are sound. Marriage has no bearing on epilepsy; many are unmarried because epileptic, none epileptic because married. There are no special symptoms by which epilepsy can be recognized between paroxysms. There is usually an irregular regularity in the frequency of the attacks. Although the prognosis as to cure is unfavorable, the danger to life is remote, and the patient, for the most part, dies of some intercur-

rent malady. Neither the epileptic "fury," "aura," or "cry" is present in half the cases. Morbid anatomical investigation has revealed every kind of lesion in every organ, and again every organ has been found in perfect health; probably because our means of examination have not been delicate enough to discover the changes producing epilepsy. But epilepsy may be caused by lesions of various organs. This is not strange when we come to consider that every part of the body has a center of communication in the brain to which it imparts every impression; also every voluntary muscle has nervous cords of connection with the brain centers, through which the will acts upon it. Recent physiological investigations go to show that the epileptic paroxysm arises, not from an increase in the explosive discharging energy of the central nervous system, but from the suspension of certain normal restraining inhibitory influences; therefore, when a fit occurs, the motor influences, heretofore held in check, are freed, and the muscular system is thrown into a spasmodic condition. It is also reasonable to suppose from this, that after one fit has taken place another would more readily occur; for the inhibitory influence once suspended, is more easily suspended a second time, and each attack renders another more probable. Epilepsy, therefore, depends upon a depressed, not an exalted condition of the vital forces. There is some mystery connected with the causation of most diseases, and epilepsy is not an exception. The treatment of epilepsy so far has been very unsatisfactory; we are fortunate if we can discover some curable organic or functional lesion upon which the disease depends, and by the removal of which we may hope to effect a cure. In many cases none is discoverable either *ante* or *post mortem*.

GALVANO-CAUTERY IN ULCERS.

BY F. CORNWALL, M. D., SAN FRANCISCO.

I WISH to chronicle the fact that galvano-cautery is our most potent remedy for the cure of syphilitic and strumous ulcerations of the throat. So far as I am aware, galvano-cautery has not been recommended for this condition in the throat. In two cases

which I had treated with Dr. Logan, after several months of persistent local and constitutional treatment, which improved the general health but merely mitigated the ulceration, galvano-cautery cured by two slight applications. This leads me to think that the remedy would be one of our best in ulcerations in other localities. It is already used with very extraordinary effect for indolent ulcerations of the cornea.

It is my opinion, verified from a somewhat extended use of the agent, that any surgeon of an extensive practice who does not employ galvano-cautery is certainly failing to have much of the success which he otherwise would.

RAMBLINGS IN GYNECOLOGY.*

BY H. T. WEBSTER, M. D., OAKLAND, CAL.

As MY title indicates, I intend to devote a little space to thoughts and experiences in gynecology without treating exhaustively on any particular subject. If the reader may thereby be enabled to cull an idea which will assist him in the pursuit of this important branch, I shall be repaid for my trouble.

CURETTING THE UTERUS.

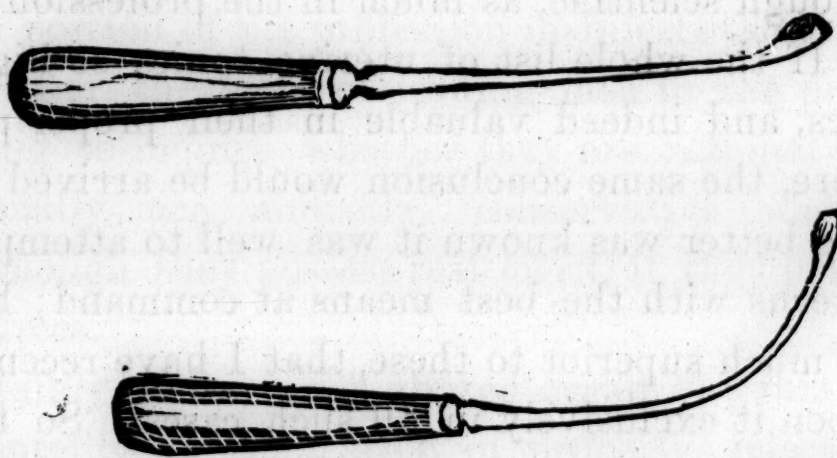
This operation as usually practiced has somewhat the appearance of a formidable one, and while any interference with the uterine cavity attended by traumatism may result seriously, my method does away with those obstacles which interfere with the attempt, on the part of the isolated country practitioner, to perform it. The use of a vulsellum forceps to drag the organ out of place, and the need of an assistant to hold a Sim's speculum, are avoided, and the patient is saved a great amount of pain if an anæsthetic be dispensed with, and I find this practicable in the majority of cases. Moreover the patient is saved the unpleasant after effects liable to follow the dragging operation, as in my plan this is entirely dispensed with.

I operate through a common bivalve speculum, which, of course,

* Prepared for the Transactions of the National for 1886-87.

is self-retaining, the patient lying on her back with knees flexed. After cocainizing the cervix, if I find this necessary, for some patients will bear the dilatation of the cervix without it, while a small number will require chloroform or ether to complete anaesthesia, so sensitive will the tissues be about the internal os, I dilate with a Palmer's uterine dilator (because I happen to have this pattern). The removal of the morbid growth is accomplished by the use of two curettes, one of which is curved in the shank to allow the edge of the instrument to come in contact with the anterior surface of the uterine cavity, when the normal axis of the organ is preserved; the other instrument is straight in the shank, or may be slightly curved in the opposite direction for treating the posterior surface.

In order to be successful in the use of the curved instrument, the operator must possess more dexterity than in the use of the straight one with the uterus dragged downward;



but if it be recollected that as the downward motion of the curette is accomplished the handle should describe an upward curve toward the symphysis pubis something like that of the handles of the obstetrical forceps during the delivery of the head, though not so sweeping, there will be no trouble in soon acquiring the necessary skill.

A uterus, requiring curetting, will be found enlarged to such a degree that it is not freely movable in the pelvis, and if we add to this element of stability the tension of the expanded speculum we find the organ well steadied without the aid of vulsellum forceps.

FLABBY UTERUS.

Subinvolution and chronic disease of the endo-metrium are attended by more or less increase in the depth of the uterine cavity, which will often be found to measure three or three and a half inches in depth. The organ being proportionately large, dragging, and other local symptoms, as well as disturbance of the

general system from reflex action out of all proportion to the actual pathological condition, may result.

For years it has been proposed by various members of the profession, to relieve this condition by the administration of ergot. But this drug fails to produce the effect on the nongravid uterus that might be expected, judging from its influence in parturition. The theory may be beautiful that, because it promotes uterine contraction during labor, it will also contract the nongravid uterus; but, like many other theories, it has no substantial foundation. The practitioner who persistently saturates his patient to a state of unpleasantness with this drug, believing it will contract a flabby uterus, commits an egregious blunder—even though scientific, as much in the profession goes.

If the whole list of uterine tonics so highly lauded by eclectics, and indeed valuable in their proper places, were reviewed here, the same conclusion would be arrived at. So long as nothing better was known it was well to attempt the relief of flabby uterus with the best means at command; but there is an agent so much superior to these, that I have recently learned to depend upon it exclusively in all such cases. So far as drugs are concerned, I have yet to know of my own personal knowledge of a single case that has ever been benefited by any one or any combination of them. Possibly polymnia may succeed. I admit a lack of experience with this agent in this respect.

In treating such a case I now resort to the following plan, and from past experience have learned to place great reliance upon it. With a bivalve speculum in the vagina exposing the os uteri, I dilate the cervical canal, if necessary, and this will usually be the case, and then carry into the enlarged cavity an electrode, similar to the one illustrated in the cut.



This consists of a terminal copper bulb, an inch and a half in length, and at its largest part, of the diameter of a No. 15 bougie, American scale; this being connected to a handle by a

brass staff, insulated by a rubber covering. This electrode is connected to the negative conductor of the battery, while the positive is connected to a sponge holder, the moistened sponge to be applied to the abdomen, hips, lumbar, and sacral regions, so as to permeate the walls of the uterus thoroughly, with the current.

The seance may occupy ten or fifteen minutes, and may be repeated once a week, or at greater intervals, if there be too much disturbance provoked. I am aware that just now in advocating such treatment I am out of fashion, for since Lawson Tait, a few months ago, condemned the use of the uterine sound, a great many of the profession have taken up the cry, and for the next few years I shall not be surprised if topical applications to the endo-metrium are as much avoided as they have been courted in time past. A certain portion of the profession manifests the proclivity of scrambling after the ideas of leading men in the profession without waiting to inquire whether they are rational or not. Such men usually are mulishly conservative about adopting ideas, even though they possess real merit, if they emanate from humble sources.

The uterus has certainly been a much-abused organ, but this is not because of the intelligent application of properly selected means for clearly defined ends, but because routine methods have been followed with no definite idea of what was to be accomplished. The older I grow the more I become convinced that the successful physician must depend upon his own brain, rather than on that of his neighbor or the authorities for a knowledge of the proper adaptation of means to ends.

I find the electrode just described also valuable in treating

IRRITABILITY OF THE URETHRA.

Its effects are prompt and pleasing in almost all cases not perpetuated by the teasing due to a malposition of the pelvic contents; as, for instance, where the perineal support is not sufficient to prevent prolapse of the bladder, or where the utero-sacral ligaments are shortened by inflammatory deposits. Even in such cases the relief is more prompt and positive than from any other remedy with which I am acquainted. I attach the negative to

the electrode, and while the bulb is in the urethra I apply the positive with a sponge to the cutaneous surface about the pelvis. A current of moderate intensity—two or three cells—should be used at first; later six to ten cells may be thrown into the circuit.

URETHRAL CARUNCLE.

This apparently trivial affection may give rise to a great amount of annoyance. It is not a simple affair to always cure such cases promptly. Curetting the urethra does not always afford a cure; for the growth is very liable to recur, and the patient learns to dread the repetition of the operation. I have found the chromic acid to be reliable here, and it does not need many repetitions. Its application is not attended by very severe pain, and it is not an active cauterant. There seems to exist in the drug some principle which promotes the extinction of the growth without causing much of any sloughing. Like the Arab, "It silently folds up its tent and vanishes away;" disappearing by a sort of resolution. The agent should be employed in the strength of a hundred grains of crystals of chromic acid to an ounce of water. Dr. Marshall follows its application with lead lotion, to lessen the burning pain produced; but this is not usually necessary.

LACERATION OF THE PERINÆUM.

In operating for laceration of the perinæum, I have had just enough experience with silver wire as sutures to induce me to give it a wide berth hereafter. It is harsh, stiff, painful, and pus-producing while in the tissues, and its removal causes considerable suffering. The iron-dyed silk affords much better satisfaction in these regards and is especially commendable on account of the ease with which it may be removed after the union is completed. I notice that catgut has been used successfully in this operation, and propose to try it on the first charity patient I can find who will allow me to operate.

In introducing the sutures I use a long, curved needle, similar to that used by upholsterers. This is passed through the recto-vaginal wall while the gap is spread wide open. Thus the suture is certain to be completely buried in the tissues, a fact not so well established when the parts are puckered by stitches previously applied below. I do not tie any sutures until all are in place. I prefer a needle without cutting edges. It is passed with greater difficulty than a bladed needle, but it leaves a better bed—one less liable to suppuration—for the sutures.

SELECTIONS.

ELEVEN CASES OF PHTHISIS TREATED BY INTRA-PULMONARY INJECTIONS OF CARBOLIZED IODINE.

IN a treatise upon "Phthisis Pulmonalis," by J. Hughes Bennett, the author remarks: "I confidently look to the future as affording means for demonstrating the ratio and conditions under which the prognosis of phthisis may be determined. In the meantime, I can only express my conviction that its permanent arrestment and cure are, by judicious treatment and hygienic management, becoming every day more frequent and more widely extended."

Assuring remarks like these from a man of such recognized skill and experience cannot fail to encourage the profession at large to renewed efforts to check this greatest outlet of human life.

Physicians have tested, over and over again, the merits of sprays and of inhalations of vaporous solutions. Astringent fluids, as well as other fluids, have been injected down the larynx and into the bronchi for the cure of phthisis. Actual openings of the pulmonary cavities from without have been practiced, and every effort made to cause them to cicatrize; but the results have been unpropitious. I feel confident, however, that some such plan of surgical treatment, with strict attention to the principles of antisepsis, as practiced at the present time in cases of abdominal section, can be made quite as successful and warrantable a procedure in these cases.

The curability of phthisis, in its several stages, is becoming quite as established as the fact that the disease is, in this country, one of progressive mortality.

Post-mortem examinations frequently demonstrate that the disease has been checked, not only by medical skill, but some-

times by natural effort. The more we study the nature and progress of consumption, the more do we become convinced that local medication must enter largely into its successful treatment.

Actual injections into pulmonary cavities through the intercostal spaces have been practiced within a very recent period, with some supposed benefit, and the procedure appeared to me so very rational a plan of treatment that I determined to make a judicious trial of it during my service at Charity Hospital, where a large number of cases were aggregated. The local application of remedies which possess and exert alterative influences seems to promise the most reliable means of ridding the system of the tubercular material, either by disappointing its development or by rendering it capable of absorption or excretion.

This process would, of course, be more or less active in proportion to the patient's physical condition, which would be maintained by an arrest of the local destructive conditions present in the lungs.

The successful treatment of phthisis would include every means, local and general, for checking the accumulation of the tubercular exudation and arresting ulcerative processes, for the system suffers, of course, in proportion to the extent and continuance of suppuration, if not from the actual absorption of the products of ulceration. We observe every day, in the wards of our large hospitals, many patients who, in consequence of a low state of vitality, manifest dangerous tendencies to suppurative disturbances after accidents. The injured tissues decay, and indolent ulcers appear, which require lotions or ointments of a stimulating character to induce healing action. The walls of pulmonary cavities are similar to those of indolent ulcers on the external parts in the continuous molecular disintegration of contiguous tissue, and require, it seems reasonable to suppose, direct local treatment. Specialists in every branch of medicine appreciate the value of, and practice, local medication in addition to the general treatment of the patient.

In view of all these facts, I ventured to treat a few cases of phthisis by the careful introduction of a few minims of carbolized iodine into the pulmonary excavations, through the intercostal

spaces, by means of a small syringe and needle which I had made for the purpose by George Tiemann & Co. The case consists of a graduated metallic and glass syringe, large enough to hold one drachm of fluid, a wide-necked reservoir for holding the solution to be used, and two needles, four inches in length, made of well-tempered steel, of the calibre of a small-sized aspirating needle.

At the extremity for the escape of the fluid, are three or four apertures arranged circularly, which permit the injection to enter the pulmonary cavity in the form of a spray. Along the shaft of the needle is arranged a movable guard of hard rubber, which is used to regulate the depth to which it is desired to insert the needle into the lung, in order to reach the cavity which is the subject of treatment.

The depth of the cavity and its location can be determined, by auscultation and percussion, with accuracy, which is a proceeding requiring due study and skill.

By this plan of treatment the most urgent symptoms were in all of the cases relieved so long as the treatment was continued. In two aggravated cases, though the symptoms which distressed the patients most were ameliorated and life apparently prolonged, they nevertheless succumbed to asthenia a few weeks after treatment was discontinued.

The distressing cough always present in these cases was markedly controlled, and the expectoration, which in some of the cases was excessive, was diminished materially by the injections. The patients' general health in some of the cases seemed to have decidedly improved. This was especially observed in Case II., where expectoration one week after the first injection was reduced from ten ounces to one ounce in twenty-four hours, and in Case XI. from sixteen ounces to two ounces in the same period.

The prognosis seemed so unfavorable in Case II., when I began service at the hospital in November, 1885, that I rather hesitated to subject him to the treatment. Nevertheless, he revived so much after the first and second injections, that when I last saw him, in January, 1886, two months after I instituted the treatment, he appeared in every respect much improved in health and strength.

This case seemed especially unpromising of good results from treatment, as he had a very large excavation in the right (upper portion) lung, and a small excavation enlarging in the left apex and though in every respect seriously ill, nevertheless responded immediately to treatment in the most satisfactory manner.

A paroxysm of coughing followed the injections in almost all the cases, but in a few minutes ceased, and for two or three days after, the coughing was less frequent and the expectoration diminished. The night-sweats, which were quite profuse in some of the cases, seemed to be decidedly modified by the treatment. I had the pleasure and satisfaction of having had my diagnosis, in the first few cases, verified by Dr. James R. Leaming and my father, Dr. O. A. White, who visited the hospital with me on December 8, 1885, and on a subsequent occasion by Dr. J. L. Morrill, of this city.

In Case II., Dr. Leaming stated, after auscultation of the chest, that the cavity in the right lung had "hardened walls," which was not the condition prior to the intrajection of carbolized iodine, and affords a valuable instance of the benefit following this plan of treating phthisis. I am indebted to Dr. William Moore, House Physician, Charity Hospital, for a record of the cases treated and carefully-taken notes of the progress of the patients under treatment.

CASE I.—D——, male, aged forty-three. A large cavity at right apex, with flabby edges and loud, moist, gurgling rattles. Patient's general condition fair, though manifestly emaciated; appetite fair. Some dullness obtained over left apex.

First intrajection practiced November 31, 1885, followed immediately by very little coughing. Tasted the iodine. Between forty-eight and seventy-two hours after the operation, the coughing was less frequent and the expectoration diminished. The pain which he felt prior to the operation over the region of the cavity was also ameliorated. Four hours after first intrajection the temperature was 100.4° ; ten hours after, 99.6° , and twenty hours after, normal.

Second injection, given December 5, was followed by a severe paroxysm of coughing, which continued for about fifteen minutes,

with frothy, fibrinous expectoration. Complained of pain at the point of puncture for some hours after the operation. Cough and expectoration controlled.

Third injection performed December 8, in the presence of Drs. Leaming and O. A. White. Coughing and expectoration of frothy, fibrinous character followed immediately after the operation, but both ceased in a few minutes. The patient's general condition between the second and third days after was much improved, and the temperature never exceeded 99.6°.

CASE II.—S——, male, aged forty-seven. A large pulmonary excavation was discovered on examination at the upper portion of the right lung, extending down to third intercostal space. There was also dullness on percussion over the left apex, and a small cavity diagnosed in this region. The patient was weak and emaciated. Night-sweats profuse and exhausting. Loud, moist, gurgling rattles over upper portion of right lung heard anteriorly and posteriorly. Expectoration was quite abundant, and cough distressingly frequent.

First injection, given November 28, was followed by very slight pain, and a short paroxysm of coughing, with a frothy, fibrinous expectoration, which ceased in about ten or fifteen minutes. Almost immediately after the injection the patient tasted the iodine and carbolic acid.

Second injection was administered December 1, after an attempt was made to aspirate the right cavity, with the hope of removing some of the large amount of the exudation which was present. Although a good-sized aspirating needle was introduced into the cavity, none of the pus was withdrawn, which was due, doubtless, to the very viscid and tenacious character of the fluid contents of the cavity.

About fifteen minims of the carbolized iodine were then introduced into the cavity. A violent paroxysm of coughing was occasioned, followed by frothy, fibrinous expectoration. Between forty-eight and seventy-two hours after there was so much pain complained of, which he described as *burning* in character, that a morphine hypodermic was administered. This soon gave relief, after which the cough and expectoration were lessened, and

the patient declared himself feeling generally much better. After the first intrajection there was a slight rise in temperature, within twenty-four hours not more than $.4^{\circ}$ to $.6^{\circ}$ above normal, to which latter degree it gradually fell within a short period. The temperature was not materially affected after the second intrajection.

On December 8 the patient's general condition was quite satisfactory. Coughed less frequently. Expectoration reduced from ten ounces to one ounce in twenty-four hours, and the facial expression less pinched and anxious than it was prior to the commencement of the treatment. Upon auscultation the moist sounds were found decidedly modified, and the walls of the cavity gave every indication of a more dry or hardened condition, suggesting an attempt at cicatrization. I desired to repeat the treatment, but the patient's recollection of the pain that followed the last operation caused him to oppose any interference at present. I do not think there is any doubt but that the pain he experienced after the last intrajection was due more to the insertion of the large aspirating needle than the injection of the carbolyzed iodine. No such irritability occurred after the first injection, nor was the same amount of pain occasioned in any of the other cases treated with the same injection.

I had an opportunity of seeing this patient in the month of January, when his condition seemed so much improved that I could not but think that, had he permitted a continuance of the treatment, a positive cure might have resulted. I am, nevertheless, impressed with a conviction that his life has been most certainly prolonged by this treatment, due to the arrestment, or perhaps I should say modification, of the destructive process in the lung.

CASE III.—M——, male, aged forty-nine. A large cavity under second intercostal space, left lung. Small cavity also at right apex. Patient's general condition fair. Cough and expectoration symptomatic. Night-sweats profuse and debilitating.

First intrajection, given November 28, was followed by very little pain. Absolutely no paroxysm of coughing, and no expectoration resulted. Did not taste the injected fluid. Between forty-

eight and seventy-two hours after, the symptomatic cough was less frequent, and the mucopurulent expectoration was diminished one-third. Six hours after the operation the temperature was 100.6° , and twelve hours after it was normal.

Second injection, given December 1, was followed by slight pain and some cough, with moderate expectoration. Tasted the carbolic acid. Forty-eight to seventy-two hours after the operation the expectoration continued to be less in quantity and the cough harsher. The night-sweats entirely checked.

Third injection was given December 22, and produced prolonged coughing, with frothy, fibrinous expectoration, which continued for twelve hours. Tasted the injected fluid and complained of heat in the part of the lung injected. A regular rise of temperature for three successive afternoons was noted, varying from 5° to 1.5° , due, undoubtedly, to some special influence other than the treatment.

CASE IV.—B——, female, aged twenty-two. When admitted to the hospital this patient was greatly emaciated. Both lungs excavated, though the left organ manifested a greater degree of decay. Night-sweats profuse. Cough and expectoration were urgent.

First injection, given December 8, was followed by considerable pain and prolonged coughing. Patient was slightly hysterical for a short period. Forty-eight to seventy-two hours after operation no marked change in the cough or expectoration was observed. The taste of the injected fluid was still present. Twenty-four hours after the injection the temperature varied from 100° to 101.4° for subsequent four days.

It was not deemed advisable to repeat the pulmonary injections on account of the debility of the patient. She died January 8, 1886.

CASE V.—H——, female, aged forty. Small cavity at right apex. Expectoration abundant. Night-sweats urgent. Patient's general condition fair.

First injection, given December 11, produced little pain, no cough or expectoration; patient tasted fluid injected. Between forty-eight and seventy-two hours after, the patient declared she

felt much better than before the operation, and her cough and usual expectoration decreased. Six hours after the temperature was 99.8° , but gradually fell to normal within twelve hours.

Second injection administered December 22. Felt some pain in posterior aspect of lung corresponding to point of injection anteriorly. Some cough followed, with slight fibrinous expectoration. Between forty-eight and seventy-two hours after, the pain in back of chest ceased, and she continued, in her own words, to "feel better." The temperature, about twenty-four hours after injection, was 98.5° .

CASE VI.—C——, female, aged twenty-five; patient greatly emaciated; cavities found in both lungs—upper portions; expectoration not excessive, but always tinged with fibrine; complains of pain in both lungs. First injection administered December 11. Was followed by slight pain; no paroxysmal coughing, but ordinary cough, resulted in slightly blood-stained expectoration. Did not taste the injected fluid. Between forty-eight and seventy-two hours after, the pain in the lung disappeared. There was no variation in temperature other than a rise of from $.4^{\circ}$ to $.6^{\circ}$ every afternoon. As this patient became insane, the treatment was not continued, and on January 1, 1886, she was transferred to the city asylum. Symptoms of mania were apparent before the treatment was commenced.

CASE VII.—D——, male, aged forty-eight. A large cavity was discovered in the upper part of right lung, and a small excavation at the apex of left lung. Excavating process was rapidly extending. Emaciation marked and rapid, with anorexia and profuse night-sweats. First injection administered December 12, followed by no cough nor other result than taste of the injected fluid. Forty-eight hours after the operation, his usual coughing was rendered less urgent. Expectoration was not affected. There was no rise in temperature above 99° up to time of the second injection, December 18, after which the expectoration was lessened, and the patient declared himself better. Third injection was given December 22, and was followed by pain and prolonged coughing, with fibrinous expectoration, which ceased in due time, and the patient's condition was subsequently improved.

CASE VIII.—S——, male, aged thirty-seven. A small cavity was found at right apex, and dullness on percussion over left apex. Emaciation not pronounced. Expectoration excessive. An injection was administered December 18, which caused only a slight amount of coughing and clear expectoration. Forty-eight hours after, cough and expectoration slightly modified; complained of some pain at the point of injection on respiration. Temperature not above 98.5° .

CASE IX.—S——, female, aged thirty-one. Both lungs excavated; the right more extensively. Patient very anæmic, and much exhausted from repeated pulmonary hemorrhages. Night-sweats profuse; cough distressing; expectoration abundant. Right lung injected December 15. Trifling pain followed, with no paroxysmal cough and no expectoration. Had some pain posteriorly in chest, corresponding to anterior part of the lung injected. This pain ameliorated between forty-eight and seventy-two hours after the administration of the injection. Cough less urgent, but amount of expectoration about the same. Temperature not affected. Second injection was administered December 25, and was followed by much pain and a hemorrhage. Patient manifested symptoms of shock, requiring stimulants. During subsequent three days the patient was semi-delirious and pulse continued feeble. On the fourth day mental integrity was restored, but patient seemed quite feeble. Temperature twenty-four hours after injection was 97.8° , and respirations were 40. On the fourth day the temperature was 98.8° and respiration 22. As I left the service January 1, the treatment was not continued. This patient died January 25, 1886.

CASE X.—G——, male, aged thirty-six. A very large cavity was made out at right apex, and one almost equally as large in upper part of left lung. Sweats profuse; cough and expectoration urgent.

First injection was administered December 15, which was followed by some pain and slight coughing without expectoration. The paroxysm of cough did not continue long. Three days later the patient was much better. Expectoration and cough remained the same as before the operation. No noticeable change in temperature took place.

Second injection was given December 22, after which a paroxysm of coughing ensued with some bloody expectoration. From the second day after, the expectoration was perceptibly diminished. There was no change in the temperature, and the patient continued better up to the termination of my service, January 1, 1886.

CASE XI.—May 1, 1886, I was invited by Dr. Ira B. Read to see in consultation with him Mrs. K——, aged forty-five, married, who has been the subject of phthisis for several years. All of the symptoms of consumption were pronounced. Night-sweats profuse and debilitating. Cough urgent, and expectoration excessive, amounting to a pint in twenty-four hours, and wholly puriform and fetid in character. A large excavation, elongated, was distinctly made out, extending from the apex of left lung down to fifth intercostal space, at which point loud, gurgling rattles were heard. There was manifest flattening of the left chest. In the presence of Drs. Read and J. L. Morrill, I introduced twenty minims of carbolyzed iodine into the upper part of the cavity through the second left intercostal space. The operation was followed by no paroxysm of cough, nor was there any expectoration, and no pain or irritation whatever was complained of. May 5, the following was received from Dr. Read: "Our patient is doing well; she has coughed but very little, and raised but little; she has not sweated any for two nights; she feels very hopeful, and does not dread our visit next Saturday. I sincerely wish she may be permanently benefited. I will get a full history of her case for you," etc. I quote Dr. Read's own words, that the very satisfactory character of the report may not be attributed to my enthusiasm and confidence in the treatment. May 8 and 13, cavity injected with thirty minims of carbolyzed iodine, and excited no cough nor pain. No expectoration followed the injection up to the time we left the house. The patient manifested (May 13) decided improvement in her general health. Had no night-sweats since May 8. Cough less frequent, and expectoration much modified in quantity and quality. Her appetite has greatly improved. Has fancied and eaten meat. Has been out to walk every good day, and felt less fatigue than before the treatment was instituted.

As to the ultimate benefit likely to result from this method of treating phthisis, little can be judged from the limited experience thus far adduced. I cannot but feel, however, that the treatment is an eminently rational one and promises good results, especially in a more favorable class of cases. I take great pleasure in reporting these cases, hoping that they will afford interest and encourage others to study and experiment in the same direction.

When the treatment was first instituted, in November, none of the patients treated during this month manifested as much effect from shock after the injections as in December.

This I attributed to the fact that there was a decided difference in the temperature of the fluid used, and suggested the advisability of always warming the fluid to be injected up to the degree of the body temperature. The patient should be fortified with a stimulant before proceeding, and I have thought that sometimes the operation might better be preceded by a hypodermic of one-eighth ($\frac{1}{8}$) of a grain of morphia, with a hundred and twentieth ($\frac{1}{120}$) of a grain of atropia. Should this be done, of course, anodynes should be omitted from the fluid injected.

I advise this plan in preference to including these remedies in the intra-pulmonary injections, as it lessens the probability of shock, although I have sometimes included them, and with good results.

Dr. Gougenheim, of Paris, reported in the *British Medical Journal*, the result of intraparenchymatous injections of bichloride of mercury ($\frac{1}{2000}$, $\frac{1}{1000}$, and $\frac{1}{500}$) in thirty-three cases of phthisis. Immediate improvement was observed in twenty-one of the patients thus treated, and only ten out of the whole number died. No muscular, pleural, or pulmonary lesions were found, at the necropsies of those treated, which could be attributed to the injections. This bears out my own experience in these particulars. Dr. Beverley Robinson, of New York, also reported cases treated in this manner, with benefit, using injections of dilute Lugol's solution. His article upon this subject (*Medical Record*, January 10, 1885), as well as that of Dr. Pepper (*American Journal of the Medical Sciences*, October, 1874), are most valuable contributions to the treatment of phthisis by this method.

To patients afflicted with this justly dreaded affection the intrapulmonary treatment opens up new hope, and, I think, with good reason. The plan of treatment enables the physician no longer to stand with folded arms awaiting for his patient the inevitable end, but puts in his hands the means of prolonging, and sometimes of saving life.

The following formula is the one which I have been using, and which seems to occasion the least amount of irritability when injected:—

R. Atropia.....	gr. $\frac{1}{3}$.
Morph. sulph.....	gr. ij.
Tinct. iodine.....	℥ iij.
Acid. carbol. (pure).....	gtt. xx.
Glycerine.....	℥ iss.
Diluted alcohol, 20 to 30 per cent.....	℥ iss.

M. Sig.—15 to 30 minims.

—*John Blake White, M. D., in Medical Record.*

THE IMMEDIATE CLOSURE AND RAPID CURE OF FISTULA-IN-ANO.

THE possibility of a prompt cure of fistula-in-ano is a great advance in the treatment of this hitherto troublesome affection. Every surgeon must have met with cases which resisted the old method, and failed altogether to heal. And even when those having a large abscess cavity finally healed after free incision, there was often a deep cicatrix, which was a source of constant irritation from the tendency to the accumulation of filth in the deep sulcus. Occasionally there was a certain troublesome defect in the action of the sphincter, which remained as a permanent disability. In these latter days of rapid improvement in the methods of operations, it has naturally occurred to many surgeons that fistula-in-ano might be treated successfully by the immediate closure of the wound, provided the track and abscess cavity were properly prepared, and then sutures were employed so as thoroughly to approximate the surfaces. It has been performed successfully in this country by Drs. Emmet, Weir, Lange, and

Chamberlain, of this city, by Dr. Jenks of Chicago, and by several surgeons abroad. In most instances these surgeons have operated without any previous knowledge of the work of other operators. The simplicity and the success of the operation warrant the effort to give it greater prominence than it has yet received.

Attempts have been made, heretofore, to cure fistula-in-ano by incision of the track, followed by the dissection of the lining membrane, but with indifferent success. It is only when the surfaces are quite firmly brought together and maintained in apposition, that union takes place with any greater certainty and rapidity than by the former method. My attention was first directed to this method of operating on the appearance of the first edition of Dr. Emmet's work, in 1879. I was impressed, while reading that work, with the explanations of the method of closing a lacerated perineum involving the sphincter ani, and with the accompanying illustrations. I had at that time under observation a case of fistula-in-ano, which had been laid open freely six months before, but had failed of union. The line of incision was slightly to the left of the median line, but the depth of the wound and its large granulating surfaces reminded me of some of the conditions of a lacerated perineum of long standing.

The suggestion that this wound, involving the sphincter, was amenable to a somewhat similar method of treatment was very natural. The result proved the truth of the suggestion. It was not difficult to dissect away the granulating surface, and to accurately close the wound with sutures not unlike those used for the lacerated perineum. Union promptly occurred. Since that time I have operated on a number of cases of fistula, including every variety of form, and nearly every condition of patient, with a degree of success which commends the procedure to my confidence.

The principles which should be borne in mind in the operation are: (1) complete removal of the lining membrane of the fistula and of the abscess cavity which may exist; (2) accurate and permanent adjustment of the opposing surfaces; (3) thorough antiseptic treatment of the wound.

The details of the operation are simple, but they must vary

somewhat according to the peculiarities of each case. After considerable experience I have adopted the following general plan: The patient is prepared for the operation by taking an ounce of castor oil for two succeeding days before the operation, omitting the last day, on which he takes an opiate at bedtime. The diet should be milk. It is intended to keep the bowels quiet for four to six days after the operation. The patient being anæsthetized, the parts about the anus are thoroughly washed with soap and water, then carefully shaved, and finally irrigated with bichloride solution. This douche is also thrown into the rectum and the index-finger is introduced and swept around the folds of the rectum, in order that the mucous membrane may be relieved of any matters lodged in that region. A clean sponge, wrung out of the bichloride solution and having a string attached, is next introduced into the rectum to prevent any matter from the bowel escaping and soiling the wound. The patient is placed on the back or side on which the fistula opens. If the fistulous passage is direct it is incised in the usual manner. If there is an abscess cavity this is opened to the full extent, in order to give free access to the lining membrane. The lining membrane, or so-called pyogenic membrane, is then carefully dissected away, throughout both the cavity and the fistula. The rapid and permanent healing of the wound depends largely upon the thoroughness with which this tissue is removed. It is generally very dense, and can only be completely dissected off with a sharp scalpel or scissors cutting well at the point. In some of my early operations I resorted to the curette, and endeavored to destroy the membrane sufficiently to secure union, but the operations were unsatisfactory till I removed it with the knife or scissors. When it is completely removed, the ragged, or thin and purple, margins of the wound are cut away so as to have clean and healthy surfaces for apposition and union. There is in some cases considerable hemorrhage from small arteries, which must all be ligated before the wound is closed. The first step in the closing of the fistula and abscess is to secure perfect apposition of the margins of the wound within the rectum. To effect this object an assistant should introduce an index-finger well into the rectum, and then,

bending it as a hook, extrude the bowel, which is readily effected. The whole track of the fistula is thus brought into view, and the surgeon has full control of the wound. To obtain prompt union it is necessary to evert the edges of the mucous membrane, and bring the deeper cut surfaces into contact. The success of the operation depends upon securing complete and firm closure of that portion of the fistula which involves the mucous membrane. The first sutures, therefore, should be so applied as to bring the deep surfaces together and evert the margins of the mucous membrane. To effect this object I take a large-sized carbolized silk ligature, or catgut prepared with chromic acid, and attach a needle having a slightly curved point to each end. These materials are preferred because they will not yield as does the ordinary catgut, and allow the margins to separate before union takes place. One needle is now passed just above the highest point of the incision, and from a fourth to half an inch from the margins of the wound, and the thread is drawn through to its center. The needles are then passed in opposite directions at intervals of about half an inch, in the same manner as the saddler takes his doublestitch when two pieces of leather are held in a vice and united. If the fistula is simple and there is no abscess cavity, the stitches are continued to the external extremity of the incision, making a continuous suture on each side of the wound. They are now tightened sufficiently to bring the two surfaces into apposition and slightly avert the margins of the mucous membrane, but without any strain. The ends of the ligature are then given to an assistant, who by moderate traction draws the entire fistulous track outside. The margins of the wound are now nicely adjusted with a continuous suture commencing at the upper extremity of the wound. At the external extremity of the wound a drainage-tube is inserted. When the margins of the wound are closed the ends of the suture are tied. The operation is completed by passing two or three large carbolized silk ligatures entirely under the fistula, and tying them over an iodoform gauze pad rolled firmly and laid along the wound. The object of these last ligatures is to bring the deep portion of the fistula in suitable apposition. During the operation irrigation with the bichloride

solution is continued, and iodoform gauze is applied as an external dressing. The sponge is finally withdrawn from the rectum, and a suppository of opium inserted. The diet should be milk, and opium should be continued daily for from four to six days, to keep the bowels quiet. The patient should remain in bed, and at first should remain recumbent, with the limb straight. In some cases I have applied a binder about the hips to prevent movements, where the patients were inclined to be restless.

If there is a large abscess cavity and, as often occurs, irregular, as in the horseshoe fistula, I have always entered the cavity at the external opening, then laid it open freely throughout its entire extent, and finally have opened the internal fistulous passage at the point where the cavity communicated with the interior of the bowel. Such an abscess presents a large, irregular, deep cavity, having an opening into the bowel sometimes on the side opposite the point where the cavity opens externally. These cases require much care, for the cavity to be closed is enormous, but they may be perfectly healed by one operation, if great pains are taken to dissect out all the false membrane, and to adjust the sutures so as to bring the surfaces into apposition. The internal fistulous track is closed by the same suture as the simple fistula. The abscess cavity may be closed by one of two methods: 1. The same double continuous saddler's suture may be employed, but it should be taken farther from the external margin of the wound, in order to bring as much strain as possible on the deep parts of the wound. Upon the inside, along the margin of the anus, it is well to enter the suture close to the border of the mucous membrane. This suture is continued to the external extremity of the wound. The continuous suture is then applied to the wound, and the same dressings applied. It sometimes happens that, even in the horseshoe fistula, when the suture is finished, two or three sutures, either large thread or wire, inclosing the entire cavity, may be passed completely around it, thus aiding in approximating the deep surfaces. 2. The second method is by interrupted sutures passed the same as the suture in the lacerated perineum, that is, completely around the cavity. This suture is more difficult to employ than the former, but it is more successful. With

this suture I have found no difficulty in closing at one operation an old rectal abscess of large size, which had no communication with the rectum.

In simple fistula having no cavity between the external and internal opening, I have found it possible to save incision of the sphincter by incising the sinus to the sphincter, dissecting away the false membrane up to the internal opening, and then by means of the double suture to bring the raw surfaces together. The suture is to be applied within the anus, the parts being partially extruded by the finger of an assistant hooked within the anus. The same result has been obtained by Dr. Emmet, and I believe by others. In two cases the internal opening was more than two inches above the anus, one indeed being three inches. In both cases the sinus was incised to its fullest extent, and the same form of suture employed, with the best results. In my first operations I employed the single-valve speculum, but I found it by no means as useful as the finger of an assistant. When the internal opening is high up, with strong loops of ligature thread inserted into the margins of the wound at the anus, the whole track can be readily drawn down within reach of the operator.

The conclusion which I have reached from my own experience is that fistula-in-ano and old rectal abscess cavities, whether communicating with the bowel or not, can be cured by removal of the lining membrane and the application of a proper suture, in a period varying from eight to fourteen days.

I may add that I have found deep fissures of the anus readily cured by excision of the track with its cicatricial lining, and accurate closure with carbolized silk ligature, the parts being first carefully shaved and cleansed with bichloride solution, and the wound dressed with iodoform gauze.—*Stephen Smith, M. D., in Medical Record.*

OBSTRUCTION OF THE BOWELS TREATED BY PARACENTESIS CÆCI.

At the meeting of the Medical Society of Victoria, held February 3, 1886, Dr. J. E. Neild (*Australasian Med. Jour.*, February 15, 1886) read an account of a case of a man, aged 21, who sent for him on September 14 last, complaining of some pain over the cæcum and slight abdominal tenderness. There was no swelling, pulse and temperature were normal, but there had been constipation for three days. The condition of the bowels he connected with a supper of cray-fish and cucumbers. A dose of sulphate and carbonate of magnesia, with sulphuric ether, were given, and on the following day a mixture of castor oil and belladonna, with an external application of belladonna and glycerine over the region of the cæcum, which served considerably to diminish the tenderness. A week later the tenderness over the cæcum had returned, and there was now some tympanitic swelling. The pulse went up to 115, and the temperature rose to 102. As the bowels had been acting extremely irregularly, Dr. Neild concluded that the large bowel had temporarily lost its contratile power, and a mixture of strychnine, belladonna, and ginger was accordingly directed. The following day there had been no action of the bowels, and there was a doughy swelling extending from the cæcum half-way up the ascending colon, and it clearly contained both fæces and flatus. The pulse was 120 and the temperature 103°, and there was an expression of considerable anxiety in the patient's countenance.

Paracentesis of the cæcum was then performed with an ordinary hypodermic syringe, and the puncture gave exit to a large quantity of exceedingly offensive gas, and the swelling notably subsided. This treatment was quite successful. The abdominal tenderness continued for a few days, but the swelling gradually subsided. The enemata and strychnine and belladonna mixture were steadily persisted in, with occasional doses of castor oil. In a week the patient was well enough to go into the country, and he was seen there three weeks later by Dr. Neild entirely re-

stored to health, with, however, an occasional tendency to constipation. It seems evident in this case that the peristaltic action of the bowels was arrested by the combined mechanical distention of fæces and flatus, and that the puncture of the bowel by relieving pressure averted constrictive inflammatory action.—*Therapeutic Gazette.*

PUNCTURE OF THE NERVE-SHEATH IN SCIATICA.

SIR JOSEPH FAYRER says in the *Practitioner*, April, 1886, that some years ago he was asked to see a case of aggravated sciatica of long standing in a man of middle age. The pain was very severe, continuous, liable to increase, and of a paroxysmal character. The posterior muscles of the thigh were somewhat atrophied. The patient himself was wasted and worn by continued suffering and deprivation of rest and sleep. There was no history of rheumatism, gout, syphilis, or other specific cause. A malarial origin, of course, was possible, but there was no satisfactory explanation of the origin of the disease. All the usual methods of treatment had been resorted to, but without relief. On examining the limb carefully he detected, with some feeling of fluctuation, a fullness and tenderness in the course of the sciatic nerve near its origin in the upper part of the limb. He therefore introduced a long, narrow knife into the swelling until it entered the sheath of the sciatic nerve. This gave exit to a certain quantity, a couple of drachms or so, of clear, serous fluid, which was followed by immediate relief of suffering, and rapidly resulted in complete recovery.

He says that he has seen other cases, none so well marked as this one, however, and with much less effusion of fluid, where incision, or rather puncture, has given relief, but he is not aware of others having similar experience, and would therefore call attention to it as of practical interest.—*Therapeutic Gazette.*

A CASE OF COMPULSORY AND EXCLUSIVE BACKWARD MOVEMENT.

IN *La Rivista Clinica* of June, 1885, Dr. Mazotti reports the following rare case: An alcoholic, 66 years of age, was admitted into the hospital of Bologna for the treatment of scurvy. After his recovery from this affection, it was found that, in spite of the greatest efforts, he could only walk backward, and that after that he had to turn around his own axis. These movements, of course, constantly imperiled his life. He soon succumbed to pneumonia, and the examination of the brain showed an atheromatous condition of the vessels at the base. We wonder that the inspection of the spinal cord was omitted, which might have given some clue for these peculiar symptoms.—*Therapeutic Gazette*.

Croupous Tonsillitis and Diphtheria Compared.

IN order to present more forcibly the points of contrast between croupous tonsillitis and true diphtheria. I have arranged them in the following tabular form:—

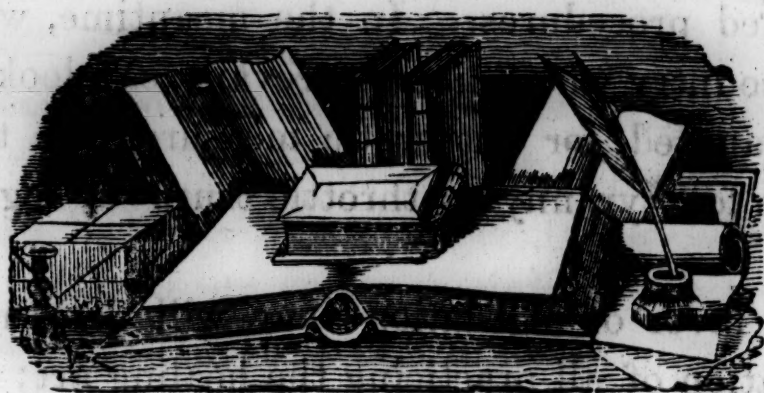
Croupous Tonsillitis.

1. Invasion abrupt.
2. Most marked general disturbance during the first two days; no tendency to asthenia.
3. Starts with a temperature of from 103° to 104.5°.
4. Pulse full and rapid.
5. Membrane of yellowish color; edges sharply defined; limited to tonsils; does not bleed when detached; superficial; not very adherent; no tendency to re-form after removal; appears early; does not spread.
6. Albuminuria rarely, if ever, present.
7. Reaches its height by the second day; by the fourth, the patient is generally convalescing.
8. Paralysis never follows as a sequelæ.
9. It is doubtful if it is ever contagious.

Diphtheria.

1. Much more often it is insidious.
2. Generally not much general disturbance before the third day, but after that marked tendency to asthenia.
3. Rarely high in the beginning, 100° to 101°, gradually rising till the fourth or fifth day.
4. When rapid it is feeble.
5. Color gray, sometimes greenish; shades off gradually; on uvula, soft palate, and pharynx as well as the tonsils; bleeds readily, even without being detached; infiltrates the deeper tissues, adherent; strong tendency to re-form after removal; may not be seen the first or even second day; spreads steadily.
6. Albuminuria rarely absent.
7. Most commonly does not reach its height before the fourth day.
8. Paralytic sequelæ quite common.
9. Frequently spreads by contagion.

—Dr. L. Emmett Holt, in *N. Y. Medical Journal*.



EDITORIAL.

Medical Boycotting.—In last month's JOURNAL we called attention to Dr. Trembly's wail, because the Anti-Chinese League had declared his name on the boycott list, and referred to the fact that when curses come home to roost with people who have been in the habit of arbitrarily assuming the dictation of affairs with which they have no right to meddle, such people are more than ordinarily thin-skinned.

Since then it has come to our knowledge that the President of the American Medical Association, in his address at the last meeting held a few weeks ago in St. Louis, advised his hearers to boycott certain medical journals, because they had opposed the arbitrary and summary way with which that body had disposed of the rights of the great mass of American practitioners in relation to the International Medical Congress.

Really this is but an outward expression of the principle that has prevailed with this body since its organization, and the expressed sentiment but formulates what actions have long since declared, that the object of the Association is not the elevation of medicine and surgery, but political intrigue, through which it may pervert the principles of a free Government, and render them subservient to its own narrow desires.

There is no doubt that the majority of the old school of medicine are heartily ashamed of the *pose* of the American Medical Association and its disgraceful code. The Association really numbers but a small handful of the American medical profession,

and the time is shortly coming when not in New York alone, but all over the United States organized opposition will be raised to its high-handed procedures. In the meantime, we, seeing that we live in a country where liberty prevails, can look complacently on, nothing daunted, for autocratic measures are too repugnant to our people for tyranny to throttle truth by legislative enactments.

We are in favor of legislation that will demand a thorough medical education of all practicing the healing art; then let every man practice as his own conscience dictates, leaving the popular judgment to decide as to individual merit.

The American Medical Association, which would boycott the medical press for liberty of sentiment, has never pressed the point of a higher medical education, but recognizes ignoramuses and abortionists with perfect readiness if they only are "regular" subscribers to an outrageous code, and forswear any individuality of opinion—submitting to the lash of discipline like curs.

It may be a little morsel of sweetness to such men to know that the code to which they bow was imported from England before that country had imbibed notions of liberality—where the rights of the many were vested in a few. There are men capable of doing the most abject and absurd things in the world, and among these are those who labor with might and main to stem the rising tide which is sweeping away old error, prejudice, and superstition.

We take it that when the proposition to boycott becomes sounded abroad, the strength of a rapidly waning organization will vanish. It is not probable that the medical millennium will then have arrived. Many steps will be taken before the two extremes of sentiment in medicine,—dogmatism, and liberality to the license of grossest ignorance,—will meet on the common ground of a higher education, enforced by legal statutes if necessary, and this the qualification for recognition among all medical men.

Dr. Pierce's Grievance.—We are in receipt of a communication from Dr. J. G. Pierce, in which he complains that his

article, beginning on page 251, June number, was not properly proof read. The following corrections should be made: At bottom of page 252, read *sulphite* instead of *sulphate*. At bottom of page 253 read *readily* instead of *rapidly*. In quotation from Scudder proper marks are omitted at ending of quotation. At bottom of page 254, instead of *nisus formations* read *nisus formativus*. With all the errors contained, the Doctor's article was readable and instructive.

Asiatic Cholera Suspected in Michigan.—W. B. Abbott Health Officer of Pinconning, Michigan, reports a case, sanctioned by Dr. Newkirk, in the *Northwestern Lancet*, suspected to be a case of that most dreaded of diseases, Asiatic cholera. The latter gentleman claims to have had a large experience in the treatment of the disease in South America during the great epidemic there. If the case is a genuine one, and we have not the slightest reasons to doubt the statement of the medical gentlemen reporting it, then Michigan may have a hard time of it should the disease become epidemic.

The following is a summary of the case: Patient forty-three years of age, was taken at 7 P. M. with vomiting and diarrhea, soon followed by cramps and rapidly growing worse. The vomiting and diarrhea were soon controlled but the cramps continued. The matter vomited and dejected was a clear serous liquid, slightly acid, and in very large amount. Symptoms of collapse soon made their appearance; the extremities became cold, and the pulse decreased and finally ceased at the wrist, the sight left the eyes and a roaring sound filled the ears, the voice became hoarse, the face assumed a most anxious expression, the eyes became lusterless and fixed. The cramps were very distressing. By 11 P. M. the symptoms began to abate.

Dr. Abbott also states that there was not the bilious matter in the emesis, but 'rice water' vomit instead. Dr. Newkirk, in diagnosing the disease, laid great stress upon a peculiar dampness of the skin. As Asiatic cholera was early suspected, all

discharges were received in vessels containing copperas, and measures taken for the thorough disinfection of the premises. The doctors think that this disinfection was so prompt and thorough that the ordinary test for Asiatic cholera, that of the occurrence of other cases, will not apply here. Investigations of the source of infection were unsatisfactory. The only suspicious circumstance was that the patient was in the habit of eating freely of raw raisins, of which a partially empty box was found in the house. The box was marked "Valencia," and the absence of a coating of sugar upon the fruit, indicated its freshness. No evidences could be found to justify a suspicion of metallic poisoning. The patient is still improving, but still suffers from suppression of urine. M.

Another Sample of "Regular" Knowledge.—A few weeks ago a child was taken sick at Redding, California, with a high fever. A "regular" living close by was called in to administer to the child. He made many inquiries and discovered that the child had eaten a portion of a green peach some days previous and came to the conclusion that the fruit was the cause of the trouble. He immediately administered a large dose of cathartic, and for the convulsions that were threatening to appear, ordered cold water packs to the youngster's head, and also prescribed chloroform internally. The patient grew rapidly worse under this treatment. The parents becoming alarmed called in an old "irregular" practitioner, who proclaimed it a case of malignant scarlet fever and stated that the child was beyond help. The "regular" scoffed at this idea and stated that there was no scarlet fever about it. The patient, however, could not rally under the treatment and, like the drowning negro, let go of the straw and died that night. The next morning a second child was taken with the same complaint, and this time the old "irregular" gentleman was given charge of the case. He called in a graduate of our college to verify his diagnosis, which he did. In twenty-four hours the scarlet rash had fully made its appearance, and the patient made a good recovery. In conclusion we would say that if our "regular" brethren cannot take charge of a human being

hovering between life and death, in a more intelligent manner, then they had better go still farther West and grow up with the country, hoe potatoes rather than destroy lives with their great burden of "regular" knowledge and blue mud. They should, at least in due respect to themselves, cease casting reflections upon the so-called "irregular" practitioners. M.

Freedom and Equality.—We are extremely well pleased to observe that we are not the only men constantly in search of freedom and equality, but that there are others equally as well interested in the campaign as we are. And why should such not be the case, since we live in what might be termed a free country, if we only stop to consider it as such. We have often said, and we do not hesitate to repeat, that the day will come when eclecticism shall be above the malicious attacks of those permitting themselves to be "bamboozled" by codes of ethics. We note in one of our exchanges that a Mr. Lowery recently introduced into the House of Representatives the following joint resolution:

"Resolved, By the Senate and House of Representatives of the United States of America in Congress assembled, that it shall be a misdemeanor, punishable by a fine of \$500 and dismissal from office, for any officer of the United States Government, civil, military, or naval, to make discrimination in favor of or against any school of medical practice, or its legal diplomas, or its duly and legally graduated members, in the examination and appointment of candidates for medical service in any department of the Government.

"SECTION 2. That all such examinations shall be open to the attendance and witness of all physicians, citizens of the United States, and that duly certified copies of the complete records of all the details of said examinations shall be placed on file in the office of the Librarian of Congress, subject to the inspection and use of members of Congress." M.

Strophanthus.—Through the courtesy of Messrs. Redington & Co., of San Francisco, we publish the following. This house is aiming to supply the drug trade with all the new remedies.

LONDON, E. C., May 26, 1886.

MESSRS. REDINGTON & Co., wholesale druggists, San Francisco—

Dear Sirs: We send you under separate cover, a pod of strophanthus, the new drug upon which Professor Fraser reported at the Cardiff meeting of the British Medical Association

last year. You will remember that Professor Fraser claims that the action of this drug upon the heart has special advantages over digitalis. We have been able to secure but a limited supply of the strophanthus, and this at a very extravagant cost. We are offering it in the form of a tincture, put up in $\frac{1}{2}$ oz. bottles. A small quantity has been sent to our American agents, Messrs. Fairchild Bros. & Foster, 82 Fulton Street, New York. We shall esteem it a great favor if you will kindly call the attention of the medical journals in your city to this new drug, requesting them to make mention of it in their columns.

Yours very respectfully,

BURROUGHS, WELLCOME & Co.

MISCELLANEOUS PARAGRAPHS.

ESSENCE of peppermint painted on burns is said to stop the pain at once.

It is said that if mustard be mixed with the white of egg, instead of water, a plaster may be made which will draw thoroughly without blistering.

A PROMINENT surgeon once had a female patient in whose bladder was a calculus concreted around a hair-pin, and he remarked that the patient's misfortune was probably due to an attempt to pin up her water-fall.—*Ex.*

AN emergency meeting of the trustees of the Vermont University was held May 20. After a heated debate lasting six hours, Dr. L. M. Bingham, the professor of surgery, for whose dismissal the students struck, offered his resignation, which was accepted.

STUDENT—"Well, we treated the patient in the most approved way." DOCTOR—"How?" STUDENT—"Well, we put him on milk diet; then he was put on wine; then we put him on the electrical treatment; then we put him on quinine, and now—" DOCTOR—"You will put him on ice."—*New York Hotel Trail.*

TREATMENT OF HYPERIDROSIS.—German army surgeons report favorably of the action of salicylic acid in extreme sweating of the feet. It is applied in the proportion of two parts of pure salicylic acid to one hundred parts of best mutton suet. So simple a remedy will be hailed with delight by those suffering from this most disagreeable disease.—*Medical Brief.*

THE "Dry Bread Cure" is the latest craze and it comes from "Lindenweise." It consists of the cold pack, a diet consisting of dry bread, twice a week, a little rice and barley, and three times a week Hungarian wine, all to continue for six weeks. In cases of rheumatism, gout, etc., it is said to be effectual.—*Medical Advocate*.

A SOUTHERN journal tells us that "there is nothing new after all in the Pasteur method. It has been long known and tried in communities where it is the custom in the morning for a man to inoculate himself with a thimbleful of the dog that had bitten him the night before." We are not perfectly clear as to what "a thimbleful of a dog" is, but presume reference is made to the animal's ear, or perhaps to the end of his tail.

NOVEL LIVER SURGERY (*Med. Press*).—In a case of acute hepatitis with enlarged liver, ascites, and other symptoms pointing to a fatal termination, Dr. George Harley introduced a trocar and cannula into the liver and drew off twenty ounces of blood. The patient made a good recovery. Dr. Harley thinks hepatic phlebotomy is destined to take rank in therapeutics as a safe and effective measure.—*Albany Med. Annals*.

CHEEK.—An enterprising undertaker sent the following cool note to a sick man: "Dear Sir—Having positive proof that you are rapidly approaching death's gate, I have thought it not imprudent to call your attention to the inclosed advertisement of my abundant stock of ready-made coffins, and desire to offer the suggestion that you signify to your friends a wish for the purchase of your burial outfit at my establishment."—*Medical Advocate*.

M. DEBOVE told a hysterical man, who was about to leave the hospital, and whom he had put to sleep, that he would become paralyzed the same afternoon. The prediction was realized, the man fell "paralyzed" in the street and was conveyed to another hospital; here the case was diagnosed as a medullary affection of syphilitic origin and was treated accordingly, but to no purpose. Finally the patient was sent to M. Debove again, who put him to sleep and told him he was cured; the remedy was successful.—*Medical Abstract*.

MISTLETOE.—*Viscum album*, or mistletoe, is a European parasitic shrub, evergreen, and grows on various fruit trees and on the oak and elm. The berries are white and waxy, and contain a peculiar viscid principle, which is used in the preparation of bird-lime. They were formerly used medicinally in the treatment of epileptic, paralytic, and other nervous diseases. In ex-

cessive doses they produce vomiting, purgency, and prostration, with coldness of extremities and some contraction of the pupil. Decoctions of the leaves and wood are the principal media of administration. American mistletoe grows chiefly on elm trees. Oak mistletoe was, and is still, held sacred by the Druids, and used in their religious rites.

RECENT OPERATIONS IN BRAIN SURGERY.—A few months ago a man was admitted into the Middlesex Hospital, under Dr. Cayley, suffering from coma, which had supervened upon a long-standing purulent discharge from the ear. There were no localizing symptoms. Mr. Hulke trephined the skull in the lower part of the temporal fossa, and by means of a director explored the temporo-sphenoidal lobe, without result. The operation was unattended with ill results, but after the patient's death, a few days later, an abscess was found in the cerebellum. Quite recently a woman was under Dr. Cayley's care with similar history and symptoms, and introcranial suppuration was diagnosed. Mr. Hulke determined to explore the brain. In this instance he made an aperture in the cerebellar fossa of the occipital bone, and through a small incision in the duramater he passed a director through the cerebellum in all directions, but without striking an abscess. Finding the symptoms were unrelieved, he subsequently trephined the temporal fossa and opened an abscess in the temporo-sphenoidal lobe. We believe these cases will be duly reported to one of the medical societies.—*Medical Record*.

OPPOSING SCHOOLS.—Dr. E. N. Lowrey is a young physician of this city who graduated some years ago from the Homeopathic Medical College of Cleveland, Ohio. From there he went to New York and obtained a diploma from a homeopathic college in that city. Thinking that he would like to know something of the old school of medicine, he took the post-graduate course at Bellevue College, New York, and followed it up by serving for two years in one of the city hospitals on Ward's Island. He came to California last summer on a visit, and, liking the climate, went back East, closed up his affairs, and returned to this city in March for the purpose of establishing himself in practice. He applied to the Board of Examiners of the Medical Society of California (allopathic) for a license, and as evidence of his qualifications produced his diploma from Bellevue College, New York; but, unfortunately for himself, he candidly admitted that for the purpose of reducing his expenses he was sharing office expenses with a medical friend from New York, who practiced under the homeopathic school of medicine. Dr. Plummer of the Allopathic Board of Examiners was horrified at the announcement and told

the young man that unless he would forswear all allegiance to the homeopathic school and pledge himself to avoid all consultation with the heretics of that school, the board would be compelled to refuse him a license. Dr. Lowrey refused to submit to this dictation, and the Board of Examiners, composed of Drs. James Simpson, W. F. McNutt, Charles H. Steele, C. E. Blake, E. G. Kenyon, R. H. Plummer and William Lawlor, at a meeting last week refused to grant the certificate.

To avoid rendering himself liable to the charge of practicing without a license, Dr. Lowrey has obtained a certificate from the Homeopathic Board of Examiners; but as he does not understand upon what ground the Allopathic Board refuse to recognize his diploma from Bellevue College, he has applied to the Superior Court for a writ of mandate to compel it to grant him a license.

—*S. F. Chronicle.*

ADVERTISERS' COLUMN.

J. LINDSAY PORTEOUS, M. D., F. R. C. S., M. R. C. P., editor in the April number of the *Edinburgh Medical Journal*, says: Of late there has been a great influx of new drugs, some of great value, others of little or no use. Where a medical man has an extensive practice, consisting of rural and urban patients, he has ample opportunity of testing the effects of drugs, as the varieties of disease that come under his notice are great; and although his means of watching the actions of drugs are not so good as in hospital practice, yet a good deal can be done if he cares to take a little trouble to "take notes."

The following is one which has been used for some time by my colleague, Dr. Proudfoot, and myself, and I give the results: Bromidia—About eighteen months ago a friend of mine from America told me of the wonderful effects of a medicine, much used in the States, called Bromidia. According to the makers, it is composed of chloral hydrate, 15 gr.; potassium bromide, 15 gr.; extract of cannabis indica, $\frac{1}{8}$ gr.; and extract of hyoscyamus $\frac{1}{8}$ gr. I obtained some, and have ordered it regularly for over a year; and have found it excellent in the pain of rheumatism, pneumonia, and cancer; also in the sleeplessness of scarlatina and alcoholism. It has never failed me in procuring sleep, without the disagreeable dreams and after-effects of opium. The dose is

3ss. to 3j. every hour till sleep is procured. I have also found it of much service in cases of tonsillitis, used as a gargle with glycerine and carbolic acid.

DR. LIVEZEY writes: "While wintering in Florida I met with my annual patient, a young lady of twenty-eight, from Chicago, who was sent hither three or four years ago in order to pass out into the "spirit land" comfortably, who now being troubled with poor appetite, a slight but distressing nausea, great debility, irregular menstruation, excessive cardiac action on the least exertion, etc., I ordered 1 oz. bottle of lactopeptine of the New York Pharmacal Association's manufacture, and she improved at once. Soon after she met a lady friend, who told her she ought to take lactopeptine, stating what wonders it had done her, who was troubled "just the same way" (of course). "Why bless me," said my patient, "that is just what my doctor prescribed for me, and I am doing nicely." By the time she finished the small vial she declared she never felt better in her life, her appetite being regular and everything O. K.

N. B.—She has taken since lactopeptine, elixir, calisaya, iron and bismuth, with excellent results.—*Medical Summary.*

HORSFORD'S ACID PHOSPHATE.—Dr. W. W. Gardner, Springfield, Mass., says: "It seems almost tautological to recommend Horsford's Acid Phosphate, a valuable local and stomach tonic. I have made use of it in my family and in practice for years. I will, however, repeat what my practice confirms, that I value it, when taken according to directions, as an excellent preventative of indigestion, and a pleasant acidulated drink when properly diluted with water and sweetened."

PROLAPSUS UTERI, LEUCORRHEA.—I have used Aletris Cordial (Rio) with the happiest results, in an aggravated case of prolapsus uteri and leucorrhoea of three and a half years' standing. The patient is now using the second bottle, and it has given her more relief than any other medicine before prescribed. I am so favorably impressed with it that I shall prescribe it in all cases to which it is adapted in the future. S. MONG, M. D.

Cincinnati, O.

ENGLISH AND AMERICAN INFANTS' FOOD.—The various kinds of artificially prepared infants' food vary much in their composition, and in the proportion of their component parts in regard to digestibility and nutritive value. Inasmuch as the use of artificial infants' food has steadily increased, and therefore become of much importance to all classes, the true value of such food should be better known, their manufacture more strictly controlled, and from time to time be analyzed and reported through the press.

Large quantities of such foods, which have been manufactured without due consideration requisite for a rational infants' food, are annually brought into the market and consumed; whereas, such preparations being deficient in either proper nutrition or disproportionate in their non-nitrogenous and nitrogenous components and inorganic salts, should not be used for the feeding of infants. Such crude kinds of artificial food are neither adapted for ready digestion nor for healthy nutrition, and can produce more harm to the infantile system than, for instance, adulterated wine or spices to an adult.

In order to bring this important matter to a practical issue, I have made an analysis of the more popular English and American infants' food, and have arranged the results for ready and comparative reference, in the following table:—

	Nestlé's Food.	Carnrick's Soluble Food.	Mellin's Food.	Wells, Richard-son & Co.'s Lactated Food.	Horlick's Food.	Dr. Ridge's Patent Food.
Fat	4.66	5.00	0.50	2.19	0.60	1.27
Protein substances (albuminoids) ..	11.46	18.22	8.34	9.05	11.80	8.76
Soluble Hydrocarbons (Sugars, Dextrin, etc.) ..	41.22	26.87	60.89	25.52	65.92	1.79
Insoluble Hydrocarbons (Starch, etc.) ..	35.47	40.87	18.40	52.92	13.12	78.66
Cellulose	0.10	0.58	1.54	0.55	0.73
Water	5.34	6.14	7.76	6.52	5.75	8.31
Salts and inorganic constituents	1.75	2.99	3.53	2.26	2.76	0.48
Amount of nitrogen in protein substances	1.833	2.915	1.835	1.448	1.809	1.403
Amount of protein substances readily digestible ..	11.09	16.45	7.38	8.35	10.85	7.97
Proportion nitrogenous alimentary substances (Protein = 1)	1:7.7	1:4.4	1:9.6	1:9.2	1:7.1	1:9.3
The inorganic constituents contain						
Lime	0.390	0.645	0.155	0.390	0.060	0.060
Phosphoric acid	0.630	0.874	0.583	0.688	0.421	0.260

The following additional remarks may serve as explanatory to the above:—

NESTLÉ'S FOOD.—The amount of protein substance in this food is insufficient, and, consequently, the relative proportion between nitrogenous and the other essential constituents are deficient and imperfect. This proportion is in cow's milk as 1:4, in woman's as 1:6.8. But, as the nitrogenous constituents of artificial foods are not so readily and completely digested and assimilated as those of mother's milk, and as protein substances supply the requisite material for the formation of flesh and blood, and, consequently, for the development of infants, it seems to me necessary to increase the relative percentage of nitrogenous substances in proportion to the other component parts, and I would prefer a proportion of one part of the former to 5.0 or 4.5 of the latter, so as to supply the infantile system with a slightly greater amount of nitrogenous matter. Another important factor in an infants' food is the bone-forming material, especially of lime-salts and of phosphates. Nestlé's food is deficient in the former.

CARNRICK'S SOLUBLE FOOD is the best of all foods examined and mentioned in the table. It excels the other foods by its greater amount of nitrogenous substances (18.22 per cent), and by a rationally relative proportion (1:4.4) of its essential constituents. It also contains a larger quantity of the bone-forming inorganic substances and of the solid constituents of milk.

According to the statement of the manufacturer, the milk entering into this food is previously treated with pancreatine, thus rendering the casein more easy of digestion. This certainly is a very rational method, and, as far as I know, is applied by no other manufacturer of infants' food. It is also very pleasant to the taste.

MELLIN'S FOOD contains but 0.5 per cent of fat, and the amounts of bone-forming material and protein substances are deficient. The relative proportion of nitrogenous and non-nitrogenous constituents in this food, namely, 1:9.6, is very objectionable.

WELLS, RICHARDSON & CO.'S LACTATED FOOD is deficient in the proportion of its nitrogenous and its non-nitrogenous components, viz., 1:9.2.

HORLICK'S FOOD contains but 0.6 per cent of lime.

RIDGE'S PATENT FOOD is also of a very deficient composition in

its nutritive properties, its relative proportion of nitrogenous to the non-nitrogenous constituents being 1:9.3. The amount of starch is far too great.

The analysis of this limited number of infants' foods shows how incomplete and inferior most of them are, and how rarely they meet the requisite conditions of a rational food.—*Dr. Stutzer, of Bonn, Germany, Food Analyst for Rhenish Prussia, in Pharmaceut. Central Halle, Berlin, 1886, No. 8, and Pharmac. Rundschau, New York, 1886, page 89.*

BOOK NOTICES.

THE GENUINE WORK OF HIPPOCRATES, translated from the Greek, with a preliminary discourse and annotations, by Francis Adams, LL.D., SURGEON. In two volumes, published by Wm. Wood & Co., 56 and 58 Lafayette Place, New York.

This is the April number of WOOD'S LIBRARY for 1886. The design of this work is to give a translation of all the genuine remains of the great Hippocrates, along with such an amount of illustration as may be sufficient to render them intelligible to any well-educated member of the profession at the present day. The first volume of this publication, which now lies before us, is an excellent work, and not only very interesting reading, but also very instructive. It presents a full account of ancient medicine and prognostics; also treats at length of injuries of the head, epidemics, and a regimen in acute diseases. We certainly welcome the advent of this work with great delight.

DISEASES OF THE SPINAL CORD. By Byron Bromwell, M. D., F. R. C. P. (Edinburgh) lecturer on the principles and practice of medicine and on medical diagnosis in the Extra Academical School of Medicine (Edinburgh). Fifty-three colored plates and one hundred and two fine wood engravings. Second edition, published by Wm. Wood & Co, 56 and 58 Lafayette Place, New York.

This is the January number of WOOD'S LIBRARY for 1886. In this work the author gives a concise description of the more important points relating to the diseases of the spinal cord. Owing to the very favorable reception which the first edition of this work received from the medical press, both in this country and

abroad, and the fact that it has been translated into the German, French, and Russian languages, the author has been induced to make fewer changes in this, the second edition, than at one time contemplated. But while the original plan of the work has been as far as possible adhered to, every page has been subjected to a careful revision. The sections devoted to the pathology of individual lesions have been placed under special diseases; the functional affections have been more fully considered, while a considerable space has been given to the important and difficult subject of concussion of the spine, and the method of examining railway cases. A large number of figures, both wood cuts and chromo-lithographs, has been added to the work, making it a full and concise work. The publication will undoubtedly meet with the success it rightly deserves.

WM. S. DUNCOMBE & Co, medical publishers, 211 Post Street, San Francisco, have just issued their STYLOGRAPHIC NOTE BOOK, designed for students' use in taking notes of medical lectures, and physicians' case or note book for the office.

This little book numbers three hundred pages of fine ruled paper for ink or pencil, and contains tables, charts, weights, measures, abbreviations, and rules for prescription writing, etc., and much valuable information to the student and practitioner. Sold for thirty cents by the above-named firm.

PERSONALS.

WM. UTTLEY, M. D., formerly a student in the California Medical College, has returned from England and the Colonies, where his health was very poor. The return trip over the great waters improved his health greatly. The doctor thinks of locating at Alameda, in this county. We wish him success.

JOHN SNOOK, M. D., Class of '86, has returned from the mountains and located at 604 Hayes Street, San Francisco.

L. J. LONG, M. D., Class of '86, has returned from Fresno and located with Dr. Snook at 604 Hayes Street, San Francisco.

WM. CARTLIDGE, M. D., Class of '86, is in Oakland at present. He states that Santa Paula is a very good place to die in, but "he'll be blessed if he wants to die there."

PROFESSOR M. H. LOGAN, M. D., has returned from his tour into the mountains greatly improved in health, and is again attending to his extensive practice.